Effective Student Assessment and Evaluation in the Classroom

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3. SCHOOL ADMINISTRATORS
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Overview

Effective Student Assessment and Evaluation in the Classroom: Core Knowledge and Skills and Attributes (Effective Student Assessment) is the product of a collaborative effort among Alberta's basic education stakeholders. The purpose of the document is to more clearly articulate the student assessment knowledge, skills and attributes expected under the *Teaching Quality Standard Ministerial Order* of applicants for Alberta interim professional teacher certification.

The document aims to:

- serve as a statement of the repertoire of student assessment principles and core knowledge, skills and attributes that all Alberta teacher preparation institutions, each in their unique manner, are expected to provide to their graduates;
- inform prospective employers about the student assessment principles and core knowledge, skills and attributes they may reasonably expect of recent Alberta, Bachelor of Education graduates as they begin their teaching careers;
- provide a summary of the core student assessment principles, knowledge and skills which teachers, school authorities, professional development providers and others may use when planning and developing professional growth opportunities for beginning and other teachers; and
- provide a foundation for more in-depth information gathering and research about ways that Alberta teacher professional development institutions and professional development providers may further enhance the quality of teaching in Alberta by strengthening education graduates' student assessment competencies.

The document presents a snapshot of current, sound student assessment practices. All those involved in its preparation recognize that student assessment is a dynamic field that is constantly evolving; therefore, any guide to student assessment like this document must be periodically revisited and revised.

The Expert Committee's final draft was reviewed by 32 attendees at the 2005 Colloquium on Student Assessment (Colloquium) that included representatives of Alberta teacher preparation programs, the Alberta Assessment Consortium, the College of Alberta School Superintendents (CASS), the Alberta Teachers' Association (ATA) and Alberta Education. On the basis of their review, Colloquium attendees suggested a number of amendments to the Expert Committee's draft. These suggestions focused primarily not on substance but rather urged greater emphasis on specific issues, for example, the important role of teachers' professional judgment in assessment for student learning.

The Working Committee on the Efficacy of Teacher Preparation Programs and Beginning Teachers' Opportunities for Professional Growth (Working Committee) duly considered suggestions arising from the Colloquium and has made every effort to reflect them in this document while at the same time maintaining the substance of the Expert Committee's content.

Acknowledgements

The Expert Committee developed initial drafts of the document while the Working Committee was responsible for final editing and preparing the document for publication.

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Background

Section 18(1) of the *School Act* for the Province of Alberta sets out the duties that teachers must perform while providing instruction to or in the supervision of students. Included in this set of duties is the requirement that teachers must "regularly evaluate students and periodically report the results to the students, the students' parents and the board" (Section 18(1) (e), Province of Alberta *School Act*, Chapter S-3, p. 24). Congruent with this section of the *Act*, a series of 17 knowledge, skills, and attributes (KSAs) expected of applicants for interim professional teacher certification were identified in the *Teacher Quality Standard Ministerial Order* #016/97 to guide the design of teacher preparation programs in Alberta. KSA 2(k) refers, in broad terms, to the assessment, evaluation, and communication knowledge, skills, and attributes beginning teachers are expected to possess upon completion of a teacher preparation program:

> As situations warrant, teachers who hold an Interim Professional Certificate are expected to demonstrate consistently that they understand:
>
> the purposes of student assessment. They know how to assess the range of learning objectives by selecting and developing a variety of classroom and large scale assessment techniques and instruments. They know how to analyse the results of classroom and large scale assessment instruments including provincial assessment instruments, and how to use the results for the ultimate benefit of students. *(Teaching Quality Standard Ministerial Order, 1997)*

Under a *Memorandum of Agreement* about teacher certification between the Minister of Education and appropriate officials of the universities and university colleges offering teacher preparation programs in Alberta, the Minister periodically reviews the efficacy of these teacher preparation programs and beginning teachers' opportunities for professional growth. The information and findings gathered from each review serves as the basis for recommendations about ways to further enhance the quality of teaching in Alberta that the Minister may make to individuals in the universities and university/colleges responsible for the teacher education preparation programs and individuals in the field responsible for professional development.

The Working Committee represents teacher preparation institutions and key education stakeholders in Alberta and directs and manages the periodic reviews on behalf of the Minister. The first of these reviews was completed in March 2002[1]. The Working Committee's report, *Efficacy of Alberta Teacher Preparation Programs and Beginning Teachers' Professional Growth*

[1] A survey of teacher education graduates was completed as part of this review. The graduates were asked to indicate their perceptions of the degree to which the teacher preparation program they completed prepared them in terms of each of the 17 KSAs.

Opportunities (Efficacy Report), was presented to the Council on Alberta Teaching Standards (COATS). COATS reviewed the 2002 report and provided a set of recommendations to the Minister.

Among the recommendations made by COATS was that the Working Committee focus on KSA 2(k). Student assessment was one of the areas identified in the *Efficacy Report* in which the quality of teacher preparation and beginning teachers opportunities for professional development needed to be enhanced. The Minister accepted this recommendation.

Consequently the Working Group held a colloquium in April 2004 at which representatives from the universities and university colleges that offered teacher education programs and other education stakeholders:

- shared current philosophies and practices related to providing Alberta teacher education graduates with the student assessment, evaluation, and communication knowledge and skills required for interim professional teacher certification;

and

- discussed possible steps or activities that could be taken to improve delivery to education students and beginning teachers competencies related to student assessment and evaluation.

Participants' views reflected the complexity of assessing and evaluating student learning and communicating the findings and results to the students' parents and guardians, and the challenge of preparing beginning teachers to perform these activities. There appeared to be a shared expectation that all education graduates should develop a common foundation of student assessment, evaluation, and communication knowledge and skills. Toward this end, the Working Committee appointed an Expert Committee to develop a document that describes the core student assessment, evaluation, and communication knowledge, skills, and attributes that are essential to meet KSA2(k).

The present document is a report of the work of the Expert Committee. The document can be used:

i. as a statement of the repertoire of student assessment principles and core knowledge, skills, and attributes (including, as appropriate, methods and approaches) all preparation programs in Alberta are expected to provide to graduates, notwithstanding that each individual program may deliver the repertoire in a manner and using approaches unique to it;

ii. to inform employers about the core and level of student assessment principles, knowledge, and skills that they may reasonably expect of recent Alberta BEd graduates when they commence their teaching careers in the classroom;

iii. as the core repertoire of student assessment principles, knowledge, and skills teachers themselves, schools, school authorities, professional development providers, and others may use when planning and developing professional growth opportunities for beginning and other teachers; and

iv. to provide the framework for more in-depth information gathering and research about the ways Alberta teacher preparation institutions and professional development providers may further enhance the quality of teaching in Alberta with respect to student assessment. (*Alberta Core Student Principles, Knowledge and Skills Project*, June 21, 2004 Draft, p. 3)

Glossary of Terms

To guide the preparation of this document, the Expert Committee defined the following concepts:

Assessment: Assessment is the process of collecting information about a student to aid in making an evaluation about the progress and development of a student.

Assessment Method: A strategy or technique teachers who evaluate students may use to acquire assessment data and information. These methods include, but are not limited to, observations, anecdotal notes and records, text- and curriculum-embedded questions and tests, paper-and-pencil tests, computer adaptive and on-line tests, oral questioning, benchmarks or reference sets, interviews, peer-and self-assessments, standardized criterion-referenced and norm-referenced tests, and performance assessments (e.g., writing samples, exhibitions, portfolio assessment, and project and product assessments). Several labels have been used to describe subsets of these alternatives, with the most common being "direct assessment," "authentic assessment," "performance assessment," and "alternative assessment." For the purposes of the document, the term assessment method has been used to encompass all the strategies and techniques that might be used to collect information from students about their progress toward attaining the knowledge, skills, and attitudes to be learned.

Classroom Assessment: Assessments developed or chosen and used by teachers in their classrooms to determine the progress and achievement of the knowledge, skills, and attitudes by their students, and used to refine their own instruction.

Criterion-Referenced: Evaluation relative to grade level curriculum standards (learning outcomes).

Diagnosis: Diagnosis refers to the careful investigation of a condition by its symptoms and history for purposes of identifying specifics of the condition, for example identifying students' learning issues and needs, so that the condition may be effectively addressed. The term also refers to the opinion which formally reports on the investigation and its findings.

Diploma Examinations Program: School exit examinations in selected Grade 12 courses, the results from which count 50% toward the final blended mark for each course. The main purposes of these examinations are to:

- certify the level of individual student achievement in the selected Grade 12 courses in which the student is enrolled and in terms of the expected learning outcomes provided in the programs of study

- ensure that province-wide standards of achievement are maintained
- report individual and group results to assist schools, authorities, and the province in monitoring and improving learning.

Evaluation: Evaluation involves making judgments about the quality, value, or worth of a response, product, or performance based on established criteria. Evaluations are usually based on multiple sources of information and can be used (i) to inform students, and their parents/guardians where applicable, about the progress they are making towards attaining the knowledge, skills and attitudes to be learned; and (ii) to inform the various personnel who make educational decisions (instructional, diagnostic, placement, promotion, graduation, curriculum planning, program development, policy) about students.

Formative Assessment: Assessments that take place during instruction and learning to:

- inform students, on an ongoing basis, about their progress towards achieving the intended learning outcomes as set out in the programs of study
- identify the gains and difficulties students are experiencing in what they are being asked to learn or perform
- provide specific, descriptive, and meaningful feedback
- motivate students to learn by providing feedback on a continuous basis
- monitor student performance toward the expected learning outcomes as set out in the programs of study and adjust instruction on the basis of the findings where necessary.

Grade Level of Achievement: A teacher judgment, based on the results from a variety of classroom assessments throughout the school year, expressed as a whole number in relation to learning outcomes in a subject area after a course for a specific grade level has been completed.

Norm-referenced: Evaluation in relation to other students within a group.

Programs of Study: Alberta's Kindergarten to Grade 12 curriculum is outlined in legal documents called programs of study. Each document outlines why the program is offered, what students are expected to learn, and the basic principles about how students are to achieve the required knowledge, skills, and attitudes.

Provincial Achievement Testing Program: End of year provincial achievement tests at Grades 3 (Language Arts and Mathematics) and 6 and 9 (Language Arts, Mathematics, Science, and Social Studies). The main purposes of these tests are to:

- provide feedback to students and their parents/guardians on how well the students have learned curriculum-based learning outcomes as defined in the programs of study
- provide information to teachers on how well their classes have achieved the learning outcomes set out in the programs of study, permit comparison of the results of their own assessments to the provincial achievement test results, and provide additional feedback on the effectiveness of their teaching methods

- provide information to principals on school achievement patterns in relationship to provincial results and other information available on overall achievement, for the school's annual education results report, and for setting school goals, priorities, and targets in their school's education plan

- provide to superintendents and school trustees system-wide information on student achievement levels to allow comparison with the provincial results and other data on student achievement levels, and to serve as input to the district three-year education plan

- provide information to Alberta Education and other government departments on the degree to which students are learning what they are expected to learn as defined in the programs of study, report to Albertans how well students have achieved provincial standards at the end of Grades 3, 6, and 9, monitor the consistency to which school systems and schools are meeting provincial standards of performance, and assist the province in monitoring curriculum effectiveness and improving student learning (adapted from Alberta Learning website, 2004: www.education.gov.ab.ca/k%5F12/testing/diploma/dip_gib/examinationprogram.asp).

Reliability: Reliability in assessment may be understood in statistical terms, and more broadly to include the following qualities:

- that the scoring applied to assessment is consistent with the purpose and weighs fairly the different kinds of learning that is being assessed

- that the assessment used can be fairly and equitably applied to different populations of students, ie., that for example, the language used does not bias some students over others.

Summative Assessment: Assessments that take place after an instructional segment (e.g., group of integrated lessons, unit, reporting period, grade) to:

- describe the degree to which each student has achieved the learning outcomes as set out in the programs of study

- analyse assessment information and results obtained from assessments conducted for each instructional segment to understand each student's progress and achievement at the end of the instructional segment and to inform future instructional planning

- synthesize assessment information and results obtained from assessments conducted for each instructional segment for the reporting period to form comments and grades, which summarize the student's strengths and areas of need, to be communicated to students and their parents/guardians at the end of the reporting period

- evaluate the effectiveness of the instruction used during the reporting period.

Teacher: A person who holds a valid teaching certificate and is responsible for instruction, assessment, and evaluation of student learning, and for communication of assessment and evaluation results to students, their parents/guardians, and others with a legitimate need to know.

Validity: Related to the purposes of the assessment, the degree to which inferences made about a student's knowledge, skills, and attitudes are correct, trustworthy, and appropriate for making decisions about students. Validity in assessment may be understood more broadly to include the following qualities:

- that assessment relates in a relevant, representative, and coherent way with the content and outcomes of programs of study and other learning materials and activities
- that the form of assessment is substantively supported by good theoretical rationales – for example, that questions represent a broad range of cognitive skills and levels (i.e., Bloom's taxonomy, multiple intelligences, etc.)
- that the assessment is meaningful and consequential in relation to multiple and broader outcomes of learning
- that the approach to assessment used by the teacher in gathering information about students' learning assists in furthering and enhancing learning for those students

Procedure

The members of the Expert Committee used the following documents and Alberta Education web sites related to curriculum and the two provincial examination programs to prepare the lists of knowledge, skills, and attributes presented below for each component of KSA 2(k):

- *Alberta Core Student Assessment Principles, Knowledge and Skills Project* (June 21, 2004 Draft)
- *Teaching Quality Standard Ministerial Order* applicable to KSA 2 (k) – Interim Certification
- *Guide to Education: ECS to Grade 12*
- *Guidelines for Recognizing Diversity and Promoting Respect*
- Alberta Assessment Consortium, *Framework for Student Assessment*
- *Principles for Fair Student Assessment Practices for Education in Canada*
- *Code of Professional Responsibilities in Educational Measurement*
- *Standards for Teacher Competence in Educational Assessment of Students*
- Standard U4 – Evaluator Qualifications *(The Student Evaluation Standards)*
- *The Student Evaluation Standards*

Using these materials, the members of the Expert Committee worked individually or in pairs to address each component of KSA 2(k). The drafts were shared with the other members of the Expert Committee at two meetings, the first of which was held on December 2 and 3, 2004 and the second of which was held on January 3 and 4, 2005.

The essential knowledge and skills listed below represents the Expert Committee's consensus. The order of presentation is as follows:

I. Nature and Role of Student Assessment and Evaluation in the Classroom

   The Need for Student Assessment and Evaluation

   Student Assessment and Evaluation Depend on Professional Judgment

II. Core Student Assessment and Evaluation Knowledge and Skills

   A. Purposes of Classroom Assessment and Evaluation

   B. Developing Classroom Assessments and Evaluation Methods

   C. Selecting Classroom Assessment and Evaluation Methods

   D. The Nature and Characteristics of External Testing and Examination Programs

E. Analyzing and Using the Results of Classroom Assessments, Provincial Achievement Tests, and Diploma Examinations

F. Communicating and Reporting Assessment and Evaluation Information and Results

The Expert Committee recognizes that the knowledge and skills listed in A through F are large in number. However, the Committee believes that each element in these lists is needed in order to effectively assess and evaluate students, and to communicate the findings and results to students and their parents/guardians. That is, the Expert Committee has identified the essential knowledge and skills needed by beginning teachers to conduct sound, fair, and equitable assessment and evaluation of all students. However, the members also see an interaction between the various elements and that the presence of these interactions makes the list less onerous. For example, it is likely that all of the elements listed in Section A, Purposes of Classroom Assessment and Evaluation, will be presented together as a package to pre-service students. Similarly, the construction of the various types of selection items will likely be presented together as will the construction and scoring of supply or constructed response items. Most importantly, student assessment competencies need to be developed in the context of prospective teachers' curriculum studies program components and re-enforced through opportunities for practical application in the course of student teachers' field experiences.

Nature and Role of Student Assessment and Evaluation

The Need for Student Assessment for Learning

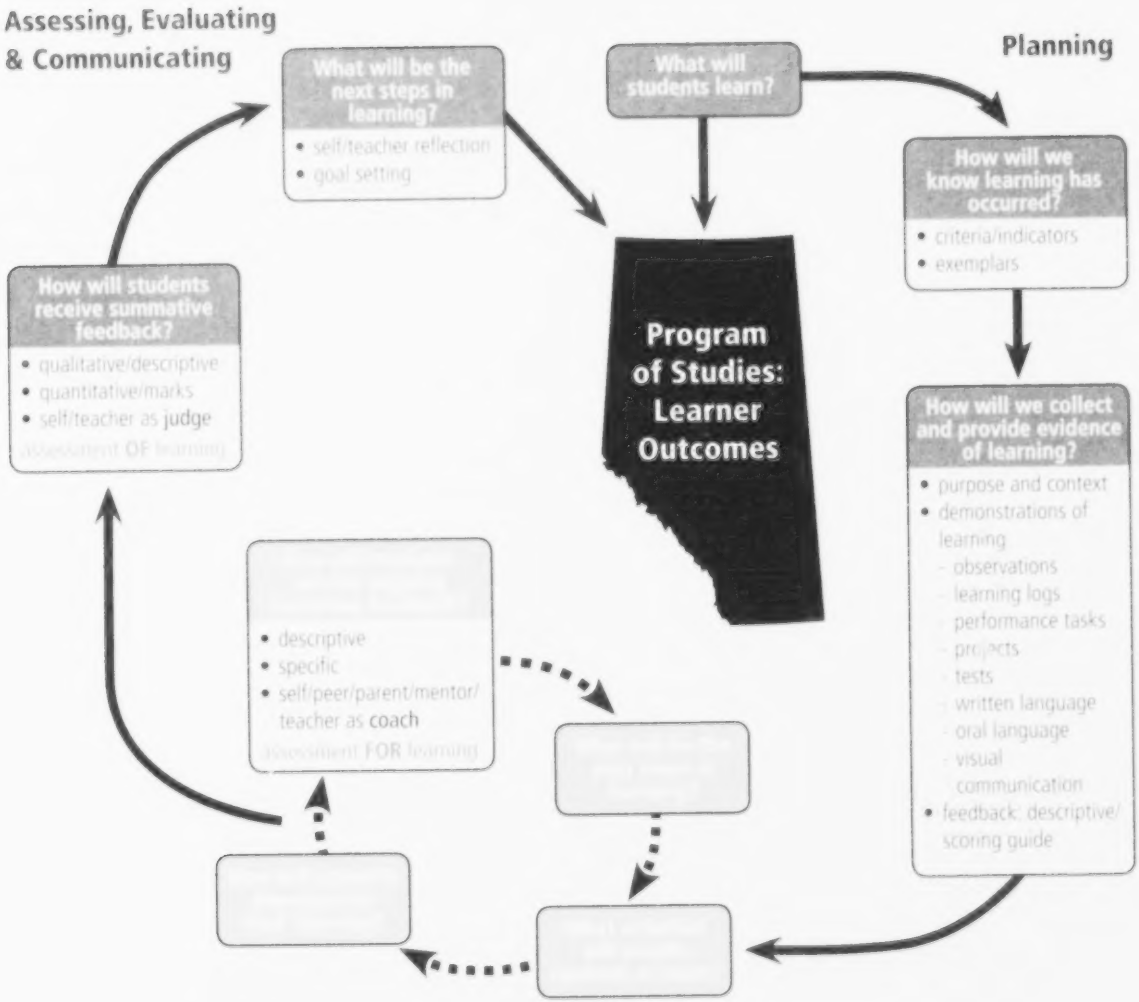
To educate students effectively is to provide students with the opportunity to reach their potential and contribute to society. This can only happen if teachers and others who work with students obtain data and information about how each student is progressing, what the student knows and can do, and what must be done to further develop and encourage the student's educational development. Student assessment and evaluation help all who are engaged in the educational process make more informed decisions.

Credible assessments and evaluations help students know what knowledge, skills, and attitudes they have acquired and where they have areas of need. Students and their parents/guardians need evaluative information to help them set goals, identify strengths that can be built upon and areas of need to be addressed, and formulate plans for post-secondary education or employment.

Teachers need assessment and evaluation results to assist them to plan, implement, and revise their classroom instruction. They also use these results to better meet the needs, often diverse, of their students, identify scholarship recipients, and advise students on what courses to take for career planning. "Every model of the teaching/learning process requires that teachers base their decisions – instructional, grading, and reporting – on some knowledge of student progress toward desired learning outcomes" (Rogers, 1991, 181-182; see also Gronlund, 2004). An illustrative model is provided in Figure 1. Dynamic in nature, the larger of the two cycles or instructional sequence begins with identification of the learner outcomes found in the programs of study for Alberta. These outcomes specify what it is that students in Alberta should be able to do following relevant and appropriate instruction. At the same time, teachers need to determine what evidence they will need to collect to know whether their students have acquired the knowledge, skills, and attitudes as a result of the opportunities to learn that they provided to their students. During the smaller of the two cycles, formative

assessments and evaluations are conducted to provide feedback on an ongoing basis, revised or new learning activities are introduced as needed based on the results of the formative assessments, formative assessment and evaluations are again conducted, and so on until the instructional time has expired or the students have had a sufficient opportunity to learn. The larger cycle then ends with summative assessment and evaluation, the results from which are used as evidence (i) about how well the students learned the knowledge, skills, and attitudes set out in the learner outcomes for the instructional sequence and (ii) to identify, through teacher reflection and reference to the programs of study, the next cycle in the instructional sequence. Clearly, student assessment and evaluation, both formative and summative, play an important and integral role in student learning.

Assessing Student Learning in the Classroom



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Source: *A framework for student assessment*, 2nd ed. (2005) – used with permission

Student Assessment and Evaluation Depend on Professional Judgment

Research on teaching reveals that the assessment and evaluation of student learning is unquestionably one of the teacher's most demanding and complex tasks. The views of the Colloquium participants on student assessment and evaluation and the contents of the figure on the previous page further reflect this complexity. The complexity arises because comprehensive student assessment and evaluation is as much a craft as a science. A lot of what is done when assessing and evaluating students depends on the application of informed professional judgment. Teachers use their professional judgment to ensure that their assessments are relevant to and representative of the learning outcomes their students are expected to achieve. They use informed professional judgment to assess and evaluate the amount of learning taking place during instruction, construct items and tasks, decide if alternate items/tasks are needed for students with special needs, score and interpret the responses of their students, provide descriptive feedback, prepare summary comments and grades, and communicate to students, their parents/guardians and others who have a right to know.

Teachers' professional judgment, while based on a foundation of knowledge, skills and attributes, develops and is strengthened through reflective practice and through active participation with teacher colleagues and others in the life of schools as learning communities in which all participants, especially students and teachers, are constantly learning. In this context, while beginning teachers may reasonably be expected to have a core foundation of student assessment competencies fundamental to sound professional judgment, it must be recognized that their ability to comfortably and increasingly more effectively apply their knowledge, skills and attributes will evolve and strengthen as they overcome the multiplicity of challenges faced by new teachers. Once more comfortable in their new role as professional teachers, they develop professional judgment skills through reflecting on their teaching practice, and most importantly, by actively participating with colleague-teachers in professional growth activities, for example, action research focused on student assessment.

The knowledge and skills identified in this document, when combined with professional judgment, correspond to what teachers need to possess so that that their student assessments and evaluations lead to fair and equitable assessment and evaluation of all students.

KSA 2(k) is restated here with lettered inserts that correspond to each of the topics in the following section of this report:

> As situations warrant, teachers who hold an Interim Professional Certificate are expected to demonstrate consistently that they understand:
>
> the purposes of student assessment (A). They know how to assess the range of learning objectives by selecting (C) and developing (B) a variety of classroom and large scale assessment techniques and instruments. They know how to analyse the results of classroom and large scale assessment instruments including provincial assessment instruments (D, E), and how to use the results for the ultimate benefit of student (A, F).

Sections A through F deal with KSA 2(k), beginning with A., Purposes of Classroom Assessment and Evaluation, and finishing with F., Communicating and Reporting Assessment and Evaluation Information and Results.

Core Student Assessment and Evaluation Knowledge and Skills

A. Purposes of Classroom Assessment and Evaluation

RELATIONSHIP TO KSA 2(k)

KSA 2(k) includes the following attribute of student assessment:

Purposes of Assessment

The major purposes of student assessment and evaluation are to improve student learning and guide students, their parents/guardians, teachers, and others with a legitimate need to help students to acquire the knowledge, skills and attitudes as stated in the programs of study. Students need information about their strengths and areas of need in order to focus their efforts, seek help when needed, maintain faith in their ability to learn, and make decisions about course selection or what to do after high school graduation. Teachers need information to determine student needs, evaluate the impact of their instruction, prepare written and oral comments, assign grades, and maintain student confidence. In addition, student assessment and evaluation should help students, their parents/guardians, and teachers plan appropriate follow-up actions.

To be effective, the purposes of student assessment and evaluation, both formative and summative, should:

- provide opportunities for students to be actively involved in their own assessments and evaluations, to reflect on their learning, and to set goals
- relate to the learning outcomes stated in the programs of study, so as to promote assessment and evaluation as an integral part of the teaching/learning process
- be provided to students and, when necessary, their parents/guardians, so that students are aware of what is expected and are focused on and motivated to take the steps necessary to ensure that learning takes place

- allow for the identification of students' strengths and areas of need, so that students can build on their strengths and seek assistance to address problem areas.

Student assessment and evaluation should reflect the following teacher functions:

- identify, in advance of teaching, the learning outcomes students are expected to achieve
- develop, adopt, or adapt assessment methods that yield results that can be reliably and validly interpreted in terms of the learning outcomes
- monitor and provide specific and descriptive feedback to students as they progress toward achieving the learning outcomes they are to achieve, so that the students are aware of their current level of performance and what follow-up learning opportunities are needed
- diagnose strengths and areas of need of each student, so that strengths can be built on and areas of need addressed
- assess and formally document student achievement of the learning outcomes for the reporting period, so as to ensure that relevant and representative information and results are available to prepare written comments and assign grades for reporting purposes
- plan, evaluate, and modify, as needed, the teacher's own instructional practice, so as to continually provide meaningful opportunities for their students to learn and progress toward the learning outcomes the students are to achieve; and
- provide information, as needed, to school psychologists and school administrators and seek from experts assessment or diagnostic information that strengthens teaching and student learning.

In reference to the last bullet, education students and beginning teachers should understand that student learning is the collective responsibility of all members of the school community. Teachers and experts should work collaboratively to positively support student learning.

RATIONALE

If a teacher starts with a clear statement of the learning outcomes held for students as set forth in provincial programs of study, plans and implements effective instruction, assesses and evaluates student progress continuously and accurately, and keeps students believing that relevant and important targets are within reach, the teacher will help motivate students to grow and develop. Students are motivated to learn when the instruction they receive and the assessments and evaluations they complete are clearly aligned to the learning outcomes and provide information that can be used to design follow-up learning opportunities for students, their parents/guardians, and others with a legitimate need to know.

B. Developing Classroom Assessment and Evaluation Methods

RELATIONSHIP TO KSA 2(k)

KSA 2(k) includes the following attribute of student assessment:

Developing a variety of classroom assessment and evaluation techniques and instruments

Teachers need to be skilled in developing assessment and evaluation methods so that the inferences drawn from the information and scores yielded by them are valid, meaningful, and not open to misinterpretation. Teachers need to consider why the assessment is being done, who is being assessed, and what is being assessed before they begin to develop and implement each assessment method they will need and use. These methods include, but are not limited to, observations, anecdotal notes and records, text- and curriculum-embedded questions and tests, paper-and-pencil tests, oral questioning, benchmarks or reference sets, interviews, peer-and self-assessments, and performance assessments (e.g., writing samples, exhibitions, portfolio assessment, and project and presentation assessments, standardized criterion-referenced and norm-referenced tests; see also Figure 1). No single student assessment method, by itself, is likely to accurately measure learning. Teachers need to use a range of methods that, if they reflect consistent results, promise the most accurate assessment possible of student learning.

For the information and results to be useful, the assessment methods teachers develop should:

- be clearly related to the purposes of the assessment, match the intended learning outcomes, and be compatible with the instructional approaches used, so that they serve the decisions to be made about the students' learning or instructional procedures
- accommodate the backgrounds and prior experiences of their students, so that all students are provided with a full opportunity to display their strengths (see *Accommodating Student Assessment*, Toronto Catholic District School Board, 2001, pp. 14-15)
- assess both content and cognitive skills (knowledge, comprehension, application, analysis, synthesis, and evaluation) in the case of achievement, and behaviors in the case of attitudes
- be appropriate for the consequences of the decisions to be made using the obtained information and results
- reflect appropriate principles and techniques for developing and using assessment methods during instruction to obtain comprehensive, consistent, and balanced indications of student performance, so as to monitor student progress, diagnose students' strengths and areas of need, assemble information for grading, and allow teachers to assess and plan their own instruction.

The need to accommodate student diversity raised in bullet two (2) above cannot be overemphasized. Teachers are expected to be

familiar and practice in keeping with Alberta Education's *Recognizing Diversity and Promoting Respect Policy*. When using any assessment instrument, especially if using standardized tests, teachers must ensure that the instruments are appropriate to the culture(s) of students, provide for language differences, are age appropriate and benefit students with special needs. When interpreting results of such tests, teachers need to take into account the individual background and learning circumstances of each individual student.

In the context of Alberta's accountable basic education system, teachers are responsible for ensuring that the assessment of their students is fair, accurate and reflects the results of a range of assessment methods that consistently, in the teacher's informed professional judgment, point to the students' reported assessment result.

In addition, teachers should:

- ensure that the assessment items and tasks are relevant to and representative of the knowledge, skills, and attitudes identified in the purposes of the assessment
- use a variety of assessment methods to ensure comprehensive and consistent indications of student performance
- restrict the number of characteristics to be observed in assessments involving observations, and ensure that they are described concretely so that observations can be made consistently and accurately
- avoid content and language that would generally be viewed as sensitive, sexist, or offensive (see *Guidelines for Recognizing Diversity and Promoting Respect*, revised 2003, Alberta Learning)
- ensure that assessments are congruent with the *Guidelines for Recognizing Diversity and Promoting Respect* (Alberta Learning, revised 2003)
- prepare clear and complete instructions that are appropriate for the ability, age, and grade level of the students
- use approved alternate procedures for collecting data and assessment information from students with special needs and students whose proficiency in the language of instruction is inadequate for them to respond in the anticipated manner
- ensure that the results from assessment methods translated from another language or otherwise modified (e.g., imported from another country, computerized) are valid for the intended purpose
- prepare a procedure for scoring to guide the process of judging the quality of a performance or product, the appropriateness of an attitude or behavior, or the correctness of an answer before the assessment method is used
- ensure that the scoring guide (rubric, rating scale, checklist) is easy for students to understand and communicated to them *before* the assessment takes place
- control for bias by ensuring that scoring is not influenced by such factors as:
  - vocabulary, spelling, and/or sentence structure when the intent is to assess other learning outcomes, such as content and reasoning

- a general tendency to be too generous or too severe
- the halo effect, where a general impression or previous rating influences the present rating
- environmental conditions (e.g., person doing the scoring is tired, distracted, or ill)

- prepare comments as part of scoring that are based on the responses made by students and present them in a way that students can understand and use them.

RATIONALE

Students must be provided with full opportunities to demonstrate the knowledge, skills, and attitudes they have learned, so that valid judgments can be made about their performances. To enhance validity, the development of assessment methods, the procedures for collecting the information, and the basis for scoring must be clearly linked to purposes for which judgments, inferences, and decisions are to be made. To obtain a more complete picture or profile of a student's knowledge, skills, or attitude, and to discern consistent patterns and trends, more than one assessment should be developed and used. In the absence of such evidence, the inferences drawn and decisions made may be unsupportable, capricious, and harmful to a student's learning and development.

C. Selecting Classroom Assessment and Evaluation Methods

RELATIONSHIP TO KSA 2(k)

KSA 2(k) includes the following attribute of student assessment:

Selecting a variety of classroom assessment and evaluation techniques and instruments

There are many assessment and evaluation methods available on the Internet and in print that teachers can access. As appropriate, teachers can adopt and apply these methods intact or adapt ideas and exemplars for use when developing their own assessment and evaluation methods. However, not all of these methods are of acceptable quality. Therefore, teachers need to exercise sound professional judgment and critical thinking when adapting or adopting electronic or other assessment and evaluation methods so that the inferences drawn from the information and scores yielded by them are valid, meaningful, and not open to misinterpretation. After all, the assessment methods available on the Internet or in print were developed in contexts different from the teacher's specific classroom. Teachers need to consider why the assessment is being done, who is being assessed, and what is being assessed before they begin to select and implement each assessment method they will use.

Of course, as noted previously, teachers must consider student diversity in their classrooms when adopting or adapting electronic or print assessment methods for use in their classrooms.

For the information and results to be useful, previously developed assessment and evaluation methods teachers select should:

- be clearly related to the purposes of the assessment, match the intended learning outcomes, and be compatible with the instructional approaches used, so that they serve the decisions to be made about the students or instructional procedures
- be suited to the backgrounds and prior experiences of their students, so that all students are provided with a full opportunity to display their strengths
- assess both content and cognitive skills (knowledge, comprehension, application, analysis, synthesis, and evaluation) in the case of achievement, and behaviors in the case of attitudes; and
- be appropriate for the consequences of the decisions to be made using the obtained information and results.

Teachers should ensure that:

- items/tasks are relevant to and representative of the knowledge, skills, and attitudes identified in the purposes of the assessment
- items/tasks are clearly written and presented
- items/tasks are appropriate for students with special needs and students whose proficiency in the language of instruction is inadequate for them to respond in the anticipated manner.

- content and language that would generally be viewed as sensitive, sexist, or offensive is avoided
- instructions are clear, complete, and appropriate for the ability, age, and grade level of the students
- scoring guide (rubric, rating scales, checklist) to judge the quality of student responses is provided
- modifications, if needed, are made prior to use in the classroom

RATIONALE

As with the development of assessments, students must be provided with full opportunities to demonstrate the knowledge, skills and attitudes they have learned, so that valid judgments can be made about their performances. When teachers need to select assessment and evaluation methods, they need to be able to distinguish between well- and poorly-stated items/tasks and scoring guides and to select only those of high quality. Teachers can opt to use previously developed material rather than develop their own, but they must be cognizant of and be able to apply procedures to evaluate these methods and enhance their quality prior to using them with their students. By adopting or adapting, when needed, previously prepared materials of high quality, good decisions are possible that can be defended and justified. Adopting a previously developed method of unacceptable quality and using it without changes can result in inferences and decisions that are inaccurate, unsupportable, and harmful to students.

RELATIONSHIP TO KSA 2(k)

KSA 2(k) includes the following attribute of student assessment:

Developing large scale assessment techniques and instruments, including provincial assessment instruments

Teachers need to be aware of the nature and characteristics of the Provincial Achievement Tests administered to all students at the end of Grades 3, 6 and 9 in the province except for students who are exempted and the Diploma Examinations administered to all students who have completed selected Grade 12 courses.

In addition to these "external" tests and examinations, samples of 13 year-old and 16 year-old students may take part in the *Pan-Canadian Assessment Program (PCAP)*, a national assessment program administered by the Council of Ministers of Education, Canada; samples of 15 year-old students may participate in the *Programme for International Student Assessment (PISA)*, an international assessment program administered by the Organization of Economic Cooperative Development; and other large-scale assessment programs, including the *Programme for the International Reading Literacy Study (PIRLS)* and the *Trends in Mathematics and Science Study* (TIMSS) conducted by the International Association for the Evaluation of Educational Achievement (IEA).

The *Canadian Test of Basic Skills (CTBS)* and the *Canadian Cognitive Abilities Test (CCAT)* are administered in some, but not all school jurisdictions in Alberta. Teachers need to consider why these assessments are being conducted, what content and skills are being assessed, which students can be correctly excused from the assessment, and how the results can be used at the student, class, and/or school levels. Likewise, teachers need to be aware of the various national and international tests and examinations that are administered to samples of schools and students.

To use the results of large-scale assessments effectively, with respect to the Provincial Achievement Tests and Diploma Examinations, teachers should be aware of *General Information Bulletins* and *Subject Area Bulletins* that are distributed to schools at the beginning of the school year to acquaint teachers with the following:

- purposes and uses of the Provincial Achievement Tests and Diploma Examinations
- test blueprints in which the content and cognitive skills to be assessed are outlined
- descriptions of the performance standards (acceptable standard, standard of excellence)
- types of items/tasks to be included in the test or examination
- how student responses will be scored
- how results will be reported at the student, school, jurisdiction, and provincial levels

- how to interpret the results in terms of factors that might influence the results (e.g., characteristics of the students, opportunity to learn)
- accommodations allowed for students who are eligible to write but who have special needs that prevent them from responding to the items/tasks in the anticipated manner
- criteria for exempting students who are not able to respond to the items/tasks even with accommodations
- how to prepare students to take these tests and examinations (e.g., guess rather than omit an item; familiarity with the item formats (selection, numeric response, short and long constructed responses) and the response formats (e.g., numeric response, answer sheets); time to complete the tests and examinations)
- what a teacher must do before the tests are administered, during test administration, and after test administration
- how to become involved in the development of items and tasks, field testing, and scoring.

To use the results of large-scale assessments effectively with respect to other external tests and large-scale assessment programs (e.g., *CTBS, CCAT, PCAP, PIRLS, PISA, TIMSS*) teachers should be aware of information provided in the pamphlets and instructions that are distributed to schools in which the tests will be administered. Much of this information will be similar to that outlined for the Provincial Achievement Testing and Diploma Examination programs with the following additions:

- purposes of the assessment and that the assessment matches the intended learning outcomes and is compatible with the instructional approaches used
- procedures used to select schools and students when sampling is used
- level – student, class, school, jurisdiction, province, Canada – at which results will be reported
- how to prepare students to take these tests and examinations.

RATIONALE

Full knowledge of the nature and character of the Provincial Achievement Tests and Diploma Examinations and careful examination and interpretation of the results from these tests and examinations can help teachers to identify students' learning strengths and areas in need of further improvement. Teachers and administrators can use this information in planning and delivering relevant and effective instruction in relation to the learning outcomes in the programs of study. Likewise, full knowledge of the nature and character of and careful examination and interpretation of the results of the *CTBS* and the *CCAT* can help reveal areas of strength and individual student's strengths and learning needs. Teachers can use this information to plan appropriate follow-up learning activities that maintain strengths while addressing the areas of need. Teachers should also be aware of national *(PCAP)* and international *(PIRLS, PISA, TIMSS)* assessment programs in that their students may be selected to participate in these assessments. These assessments provide information

that can be used to identify provincial wide areas of strength and need in national and international contexts. Alberta Education, in consultation with teachers and administrators, can use the information from provincial and other external testing and assessment programs to identify potential changes in the programs of study and approaches to instruction to improve the learning of students.

When using external testing methods and using results from such assessments, teachers should be sure to balance these with information gained from other classroom assessment methods. It cannot be emphasized too strongly that fair and reasonable assessment is more accurate when based on the application of a range of assessment methods that, when considered together, provide a composite and balanced picture of student achievement.

E. Analyzing and Using Results of Classroom Assessments, Provincial Achievement Tests, and Diploma Examinations

RELATIONSHIP TO KSA 2(k)

KSA 2(k) includes the following attribute of student assessment:

How to analyse the results of classroom and large scale assessment instruments, including provincial assessment instruments, and how to use the results for the ultimate benefit of students

Careful analyses of the results yielded by provincial tests and examinations can reveal areas of strength and need in student achievement. Teachers can use this information to plan and deliver relevant and effective instruction in relation to the learning outcomes in the programs of study and to further improve the assessment methods they use. To assist teachers with analyzing the results of provincial tests, they need to be aware of and encouraged to attend the workshops provided by the Learner Assessment Branch, Alberta Education, for example "Interpreting Results to Improve Student Learning," the Alberta Assessment Consortium, and by other experts familiar with the provincial programs of study and achievement test and diploma examination programs. When analyzing the results delivered to students in their classrooms, teachers need to keep in mind that large scale assessments present only one perspective. Sound student assessment also must reflect information gained from the range of classroom-based assessment methods. Since many local factors contribute to student achievement, teachers are in the best position to balance the results of classroom-based and provincial assessment instruments.

To be effective, analyses of student assessment data should

- be relevant to the intended purposes and uses of the assessment and to the nature of the data to be analysed
- be systematically and accurately conducted so that accurate judgments can be made and take into account possible misuses of the results
- be used to identify strengths and areas of need of individual students or for the class
- serve teachers in planning, monitoring, and modifying their teaching
- be used to gain insight into the students' thinking and understanding in relation to the learning outcomes assessed
- be used to improve the technical quality of the assessment methods used through item/task and test analyses
- take into account the instruction and learning opportunities provided to the students; and
- take into account the limitations in the assessment methods and problems encountered when collecting, scoring, or judging the student responses and with the scales (percentiles, grade equivalents, percentages, letter grades) used to report the results.

The analyses should be designed to assist teachers to:

- interpret individual student profiles from provincial achievement tests to parents/guardians and avoid possible misinterpretations of profiles
- use individual student profiles in planning students' instructional programs, and
- review results of assessments with students and their parents/guardians.

RATIONALE

Analyses of student assessment data, when done properly, can effectively monitor student achievement and be useful in improving instruction. Sound analyses makes the data collected more understandable and results in more accurate decisions. The results of an item analysis can be used to revise items/tasks, thereby improving reliability and enhancing validity. When performed correctly, analysis of data can provide accurate and valid insights into an individual student's level of performance over a period of time and meaningfully guide follow-up activities. Similarly, sound analyses can provide insights into how well assessments methods are working and how they might be improved. Improper or inadequate analyses may lead to distorted interpretations and incorrect decisions about student performance, thereby providing a disservice to students and their parents/guardians.

F. Communicating and Reporting Assessment and Evaluation Information and Results

RELATIONSHIP TO KSA 2(k)

KSA 2(k) includes the following attribute of student assessment:

How to use the results for the ultimate benefit of students

Teachers must be able to meaningfully communicate, orally and in written form, informally and formally, assessment results and information to students and their parents/guardians. Such meaningful communication requires that teachers communicate to students the relationship between knowledge and skills required by specific programs of study and how the teachers' assessment methods measure required learning. Such communication may require the teacher to share with students and their parents information about the range of assessment methods and the rationales for the specific assessment methods applied. It also may require the teacher to explain to individual students and their parents the accuracy of specific assessments and how individual students' assessments relate to overall classroom and provincial learning results. If the results are not communicated effectively, they may be misunderstood by students and others.

To be useful, communications and assessment reports about the knowledge, skills, and attitudes to be learned should:

- be constructive, so that educational decisions are made are in the best interest of each student
- be respectful, so that the students' dignity and their opportunities for educational development are enhanced
- contain a description of expected learning outcomes and the types of performance that represent achievement of these outcomes, so that students and their parents/guardians can compare what is reported with what was expected
- be based on information and data obtained from assessment methods that are relevant to and representative of the learning outcomes assessed, so that valid decisions about student performance can be made and justified and so that students, their parent/guardians, and other legitimate users can have confidence in the accuracy of what is communicated and reported
- separate the reporting of achievement, effort, participation, and other behaviors
- take into account the backgrounds (e.g., ability, gender, special needs, ethnic/culture/language, motivation, socio-economic) and learning experiences (i.e., opportunity to learn) of each student
- contain summary comments and grades, including grade level of achievement as specified in the *Guide to Education: ECS to Grade 12*, that are produced from information and data combined in a way that ensures its intended emphasis or weight as reflected in the programs of study
- be complete in their descriptions of strengths and areas of need of students, so that strengths can be built on and problem areas addressed

- allow for follow-up, so that teachers, students, and their parents/guardians can take appropriate follow-up actions
- be clearly presented, so that students and their parents/guardians can understand the results and information communicated
- be timely, so that students and their parents/guardians receive the results and information when needed
- provide for conferences between teachers and parents/guardians and, whenever appropriate, students, so that they may discuss the assessment and evaluation methods used, clarify and elaborate their understanding of the assessment results and how summary comments and grades were formed, and work to develop relevant follow-up activities or action plans
- provide an appeal process to students and their parents/guardians that they may use to appeal a result or report
- be congruent with written policies and procedures for communicating and reporting in the school or jurisdiction, so that the communications and reports are consistent, equitable, and fair
- be consistent with applicable laws and basic principles of fairness and human rights, so that the students' rights and welfare are protected (e.g., Freedom of Information and Privacy Protection (FOIPP); *Guidelines for Recognizing Diversity and Respect*)

RATIONALE

Effective and accurate communication and reporting encourage and support student development and learning. To encourage beneficial aspects and avoid detrimental aspects of student assessments and evaluations, teachers should employ communication and reporting practices that provide valid and useful information about student knowledge, skills, and attitudes. Beginning teachers likely will require the assistance of school administrators and teacher colleagues to learn how best to communicate candidly and effectively with students and parents about student achievement. School authorities should consider having in place in-service programs for new teachers so that they can learn effective ways to interact with students and their parents and learn how to conduct effective teacher and parent meetings and conferences about student achievement.

Information about student performance and progress, when communicated and reported accurately and in a constructive, professional manner, enables students to direct their energies effectively, provides parents/guardians with information they can use to assist their children, and helps teachers and others who work with students plan and implement opportunities to learn.

Summary

The Expert Committee developed the core knowledge and skills identified in the preceding sections keeping in mind the intent of KSA 2(k). Beginning teachers must be able to effectively assess and evaluate their students and communicate the findings and results to the students' parents/guardians. However, the committee members believe that much is to be gained when teachers work together to develop or choose assessment methods, score the students' responses, and interpret results.

The Expert Committee further believes that the knowledge and skills identified for each component of KSA 2(k) can be used effectively to:

i. guide the content to be included in all teacher preparation programs to provide graduates with the needed knowledge and skills to conduct sound, fair, and equitable assessments and evaluations of all students;

ii. inform employers about the core and level of student assessment principles, knowledge and skills that they may reasonably expect of graduates from the universities and university colleges that offer teacher preparation programs;

iii. guide teachers, principals, central district staff, professional development providers, and others to plan and offer professional growth opportunities in the area of classroom assessment and evaluation for beginning and other teachers; and

iv. provide the framework for more in-depth information gathering and research about the ways Alberta teacher preparation institutions and professional development providers may further enhance the quality of teaching in Alberta with respect to student assessment and evaluation.

The members of the Expert Committee have agreed that the essential knowledge and skills listed in sections A to F will form the foundation for the course or courses in which student assessment and evaluation and the communication of the findings and results are taught and learned in a student infused program. The Expert Committee has provided a number of references and resources that teachers responsible for student assessment, evaluation, and the communication of evaluation findings to parents/guardians in teacher preparation programs may find useful.

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List of Resources

Web Sites

Alberta Assessment Consortium
www.aac.ab.ca

Alberta Education
www.education.gov.ab.ca

Assessments
http://intranet.cps.k12.il.us/Assessments/

Assessment Crisis: The Absence of Assessment for Learning
http://www.pdkintl.org/kappan/k0206sti.htm

British National Curriculum-holistic scoring guides in various content areas
http://www.nc.uk.net

Designing Performance Assessment: Challenges for the three-story Intellect
http://geocities.com/Athens/Parthenon/8658

Educational Issues Series: Performance Assessment:
http://www.weac.org/resource/may96/perform.htm

Exemplars-Math Performance Assessments
http://www.exemplars.com

Foreign Language Rubrics-Fairfax County (VA) Public Schools
http://www.fcps.k12.va.us/DIS/OHSICS/forlang/PALS/rubrics/index.htm

Grading Issues in New York Schools
http://www.nysut.org/newyorkteacher/2003-2004/040602grading.html

Grading on the Curve
http://www.drkenhunt.com/pubs/15.htm
http://academics.hamilton.edu/biology/smiller/curve.html

Inside the Black Box: Raising Standards through Classroom Assessment
http://www.pdkintl.org/kappan/kbla9810.htm

Many examples of scoring rubrics in various content areas
http://www.uwstout.edu/soe/profdev/rubrics.shtml
http://www.rubrics.com/Standards.html

Multiple Intelligences Schools (a research study that examined the many ways MI theory has been applied in schools, as well as the impact it has made)
http://www.pz.harvard.edu/Research/MISchool.htm

Multiple Intelligence Test
http://www.spannj.org/BasicRights/appendix_b.htm#test

Multiple Intelligence for Children
http://www.mitest.com/omitest.htm

Northwest Regional Lab-Six Trait Writing Rubric
http://www.nwrel.org/sixtraits

PALS-Performance Assessment Links in Science
http://www.pals.sri.com

Performance Assessment in Geography
http://coe.ilstu.edu/iga/interact/assess/5-8.htm

Rising Sun Publishing contains a brief summary of MI theory and links to other sites
http://www.rspublishing.com/Multiple%20Intelligences.html

Rubrics:
http://school.discovery.com/schrockguide/assess.html

Seven Intelligence's Checklist
http://www.mitest.com/o7inte~1.htm

Student Assessment of Learning Gains-Practical Classroom Assessment Tools
http://www.wcer.wisc.edu/nise/cl1/

The Key Schools in Indianapolis
http://ncrel.org

The Uses and Limits of Performance Assessments (Elliot Eisner)
http://www.pdkintl.org/kappan/keis9905.htm

Tutorial on Performance Assessments
http://www.ascd.org

Using, Writing and Evaluating Forced Choice Assessment
http://www.gower.k12.il.us/Staff/ASSESS/8_apdx2.htm

The Median in the Key
http://www.mcps.k12.md.us/ebs.median.html

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Effective Student Assessment and Evaluation in the Classroom

Alberta
EDUCATION